

NWS Operations Proving Ground

Validating Decision Support Services and Forecast Science Improvements



Testbed Roundup Report

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Interim Director, NWS Operations Proving Ground





Vision



Preparing today's NWS forecaster to support tomorrow's Weather-Ready Nation by building capacity for superior impact-based decision support services

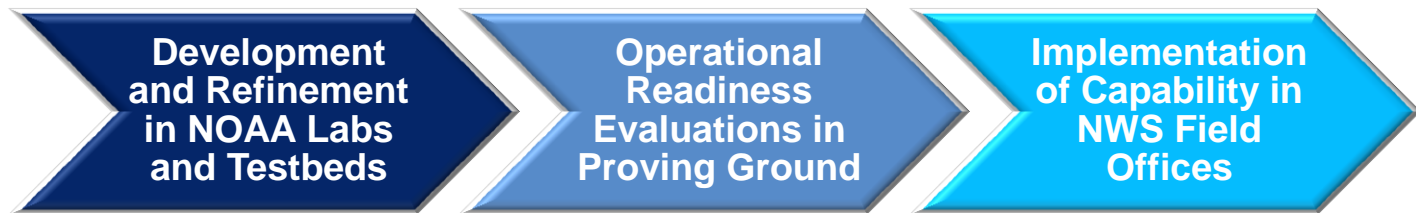




Mission



To advance the processes and skill sets needed to generate, deliver, and communicate weather information by evaluating end-to-end service delivery in a realistic operational setting.



In order to authenticate candidate capabilities, it is essential to involve core partners; test local, regional, and national linkages; assess impact on workload, workflow, and other human factors; and obtain objective validation of our DSS effectiveness and associated risk communication messaging.





Distinctive Niche



- **Services Arm of the OPG Mission:** The OPG supports and manages initiatives specifically designed to enhance our capabilities to provide **effective Decision Support Services** to *external partners*. These could be comprised of ***tools that improve service delivery***, or ***training/methods*** that sharpen ***skills in communicating risk***. In that sense, we could be thought of as a “**DSS Testbed**”. Another view: groups such as HWT and WDTB have a SOO-oriented focus, while OPG has more of an emphasis on WCM and ERS needs.
- **O2R Arm of the OPG Mission:** The OPG can be engaged to test & **validate operational readiness** for promising capabilities emerging from NOAA testbeds, or from the field – as a **final step** to earn NWS ***forecaster endorsement***, ensuring work flow and other human factors have been considered prior to widespread implementation.



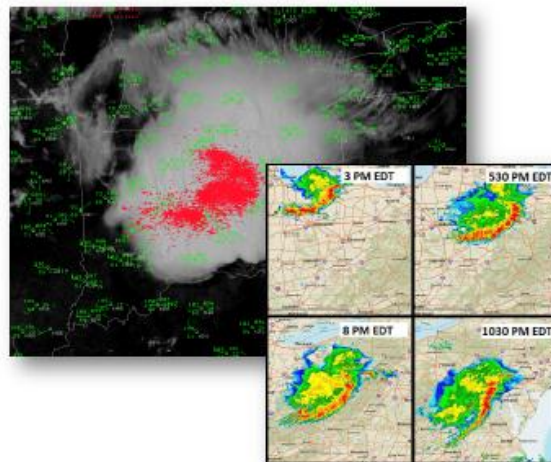
Connections to Recent Service Assessment Findings and Recommendations

At least 11 recommendations and 2 best practices are directly related to ongoing activities or projects in development at the OPG.



Service Assessment

The Historic Derecho of June 29, 2012



(See back-up slide for details.)



Year 1 Progress Report



**However beautiful
the strategy, one
should occasionally
look at the results.**

~ Sir Winston Churchill



Summary of Accomplishments

- Staff of 5 on Board
- Established Charter
- Finalizing Sys Config
- Support for CR IBW Demo
- Support for AWC TB Exp
- GOES-R Fog/Low Cloud Exp
- DSS Deployment Boot Camp
- Exec Producer for ERS Professional Development Series
- Winter Hazard Message Simplification Experiment
- Pilot Weather Training Course for FEMA Watch Standers
- Announcement of Opportunity



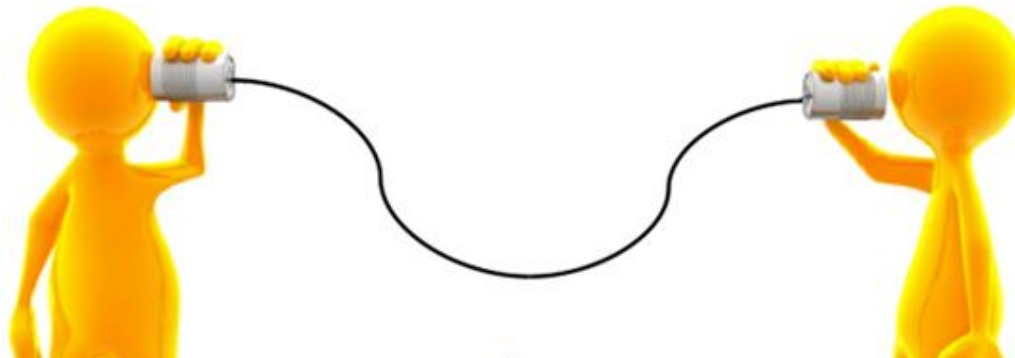
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- Support for CR IBW Demo
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- GOES-R Fog/Low Cloud Exp
- **DSS Deployment Boot Camp**
- **Lead for ERS Professional Development Series**
- **Winter Hazard Message Simplification Experiment**
- **Pilot Training Workshop for FEMA Watch Standers**
- **Announcement of Opportunity**



Effective Risk Communication

as important as Accurate Forecasting



The Goal of DSS

Get the right information
to the right people
at the right time to



DSS Deployment Boot Camp

Motivation

- WRN priority to expand DSS capacity and skill sets
- Increasingly active in disaster response
- NIMS compliance and risk comm proficiency essential



DSS Deployment Boot Camp

Success requires forecasting skills AND...

- ICS knowledge
- Consistent messaging
- Focus on impacts
- Adaptability
- Communication!



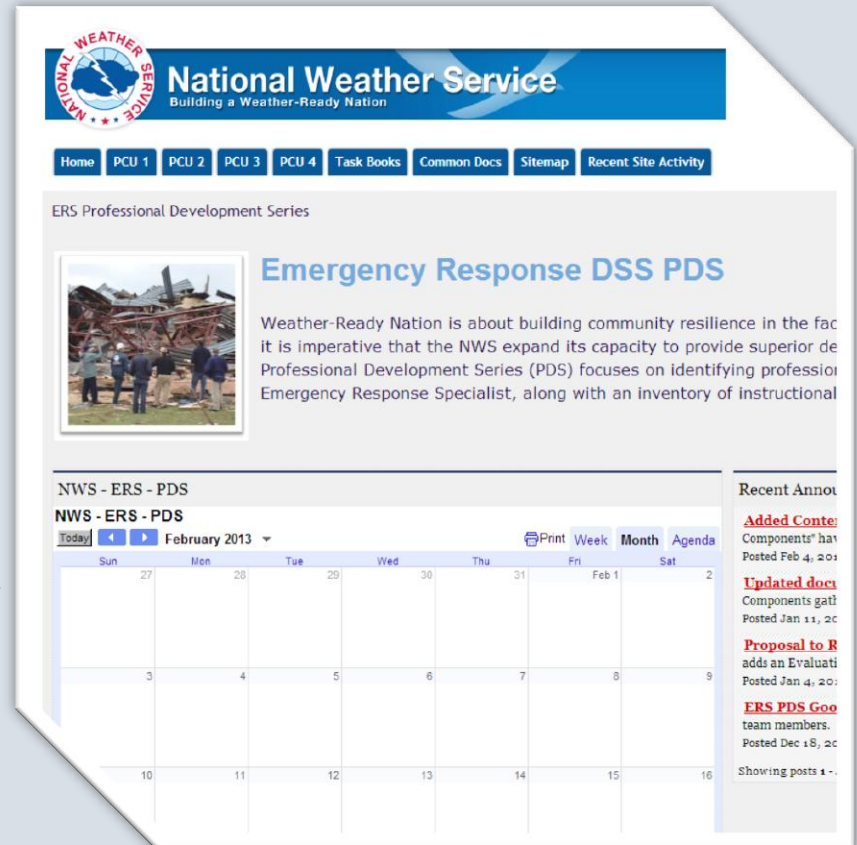
DSS Deployment Boot Camp

- Experiential workshop: on-site DSS skill set focus
- Culminated in full-day incident simulation exercise



Executive Producer - ERS PDS Team

- Representatives from all NWS Regions, OCWWS, WRN Pilot Program, WDTB, and NWSEO
- Identified general competency areas (PCUs), plus “Type 2” ERS Taskbook Certification needs
- Sub-teams assigned to identify instructional components, classify mandatory vs. optional, then analyze gaps where future development will be needed.
- Collaborating via Google Site:



The screenshot shows the National Weather Service (NWS) Professional Development Series (PDS) website. The header features the NWS logo and the text "National Weather Service Building a Weather-Ready Nation". Below the header is a navigation bar with links: Home, PCU 1, PCU 2, PCU 3, PCU 4, Task Books, Common Docs, Sitemap, and Recent Site Activity. The main content area is titled "ERS Professional Development Series" and features a section for "Emergency Response DSS PDS". This section includes a photo of people at a disaster site and a text block stating: "Weather-Ready Nation is about building community resilience in the face of it is imperative that the NWS expand its capacity to provide superior de Professional Development Series (PDS) focuses on identifying professional Emergency Response Specialist, along with an inventory of instructional". Below this is a calendar for February 2013, showing dates from 27 to 16. To the right of the calendar is a "Recent Announcements" section with links to "Added Content Components", "Updated documents", and "Proposal to R adds an Evaluation", each with a date and time. At the bottom right, it says "Showing posts 1 - 1".

NWS - ERS - PDS

NWS - ERS - PDS

Today | February 2013 | Print | Week | Month | Agenda

Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	31	Feb 1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16

Recent Announcements

- [Added Content Components](#) have been posted Feb 4, 2013
- [Updated documents](#) have been posted Jan 11, 2013
- [Proposal to R adds an Evaluation](#) has been posted Jan 4, 2013
- [ERS PDS Google team members](#) have been posted Dec 18, 2012

Showing posts 1 - 1

<https://sites.google.com/a/noaa.gov/nws-ers-pds/>

OCWWS Winter Hazard Simplification

Use Plain English to Convey the *Intent* of Our Hazards Terms

Watch

POTENTIAL for a significant winter storm to develop within the next few days

Advisory

CAUTION ADVISED for substantial, tangible impact to public safety, and disruption of routine activities

Warning

DANGER – marked risk to public safety, infrastructure and property, lingering effects on activities

Additional Prototypes to Gage Effective Messaging Strategies

NATIONAL WEATHER SERVICE GOTHAM CITY USA
500 AM EST TUE JAN 10 2013

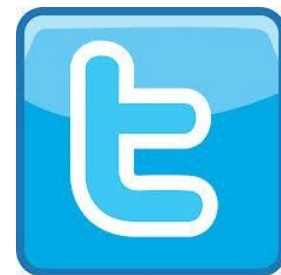
WINTER STORM WARNING

...A WINTER STORM continues to affect the area this morning with additional ***SNOW ACCUMULATION, STRONG GUSTY WINDS*** and ***DANGEROUS WIND CHILLS***.

* Periods of SNOW will continue until midnight with accumulations of **8-10 inches** possible *EAST OF PINE VALLEY*. ***BLOWING SNOW*** will result in **REDUCED VISIBILITY** and **DRIFTING**.

* Sustained WINDS of **25 to 35 mph** will result in ***VERY DANGEROUS WIND CHILLS*** ranging from **30-35 degrees below zero** tonight... *NORTHWEST OF A LINE FROM GOTHAM CITY TO METROPOLIS*.

* OTHER IMPACTS: **HAZARDOUS DRIVING** conditions will exist from the snow piling up and blowing snow **REDUCING VISIBILITY**. ***DANGEROUS WIND CHILLS*** can **FREEZE EXPOSED SKIN** in **30 MINUTES**.



Focus on what's really important.





WATCH STANDERS COURSE



CONTENT

- **Basic Meteorology and Hydrology; resources for collecting, analyzing, interpreting, and reporting**
- **Completely funded by FEMA; 25 total participants representing all 10 FEMA Regions and FEMA HQ**

GOALS

- **Meet weather-related Professional Qualification Standards for standing watch**
- **Strengthen NWS-FEMA partnership & build understanding of how best to serve their needs within construct of NRF**



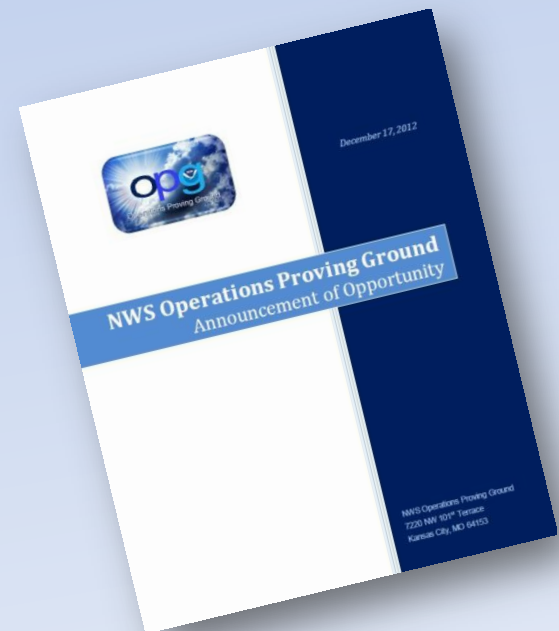
Announcement of Opportunity



- Proposal evaluations being completed now
- ORE tentatively sched. for late Summer 2013
- Need to codify interplay with other test beds (esp., HWT & FDTB)

Promising Proposals for ORE

- Comparative evaluation on design and usability of EDD and SRH ER Tool, utilizing partners from the EM community
- Forecaster validation of the NASA SPoRT Total Lightning Tracking Tool for convective warning and forecasting operations.
- Forecaster validation of GSD Hazard Services Hydrologic Warning Tool for flood ops.



Plans for 2013

- Finalize facility set-up, system configuration
- Summer ORE session, budget permitting
- DSS Boot Camp in Fall
- Version 1 of ERS PDS
- Assist social science validation and planning next steps to improve winter hazard messaging
- Support for IBW-2: prototype web displays
- Build synergy with WRN Pilots, NOAA Test Beds





Questions?





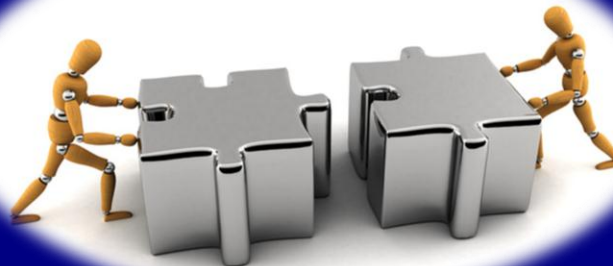
Back-up Slides



OPG Staff



NAME	POSITION <i>(except GOES-R, all positions funded by OCWWS)</i>
Kim Runk	Interim Director (NWS)
Chad Gravelle	Chief Met/Science Coordinator (GOES-R, UW CIMSS)
Somer Erickson	Risk Comm/Soc Science Research Associate (OU CIMMS)
Andrew Ansorge	IT/Applications Development (OU CIMMS)
Jack Richardson	Systems Administrator/Cloud Expert (Qu-Tech contract)





OPG Hardware



- **Prototype 2-rack AWIPS; same performance capability through virtualized processing, lower hardware refresh costs.**
- **Experiment with viability of cloud architecture for data processing, scalability, storage, IT security, etc.**
- **Traditional 5-rack system being configured now to facilitate evaluations on equipment identical to current WFO environment.**





10 Key WRN Priorities



Transformational Concept Identified in WRN Services Plan	OPG link?
Evolution to NIMS Compliance	✓
Integration into PPD8 and the National Response Framework	✓
Integration of Social Science Principles into NWS Operating Model	✓
Emergency Response Specialists - Training and Certification	✓
Foundational Data Sets	
Customer Impacts Catalogs	
Linking of Climate and Weather via IDSS	✓
Test Beds, Proving Grounds, and Simulation Training	✓
Communications Strategy for High-Impact Events	✓
Dissemination Requirements	



Hurricane Irene SA Recommendations	Relevant OPG Activity
REC 9: work with components of FEMA...familiarization, common operating picture, info mgmt, use of ICS, partnership-building	DSS PDS, DSS Deployment Boot Camp
REC 13: protocol for building, sustaining relationships among embedded ER Mets, liaisons to other EM agencies, etc.	DSS PDS, DSS Deployment Boot Camp
REC 20: actively recruit and develop effective communicators, especially for executive level interagency briefings	DSS PDS, DSS Deployment Boot Camp
REC 21: ensure forecasters selected for deployment understand ICS principles and meet appropriate training requirements	DSS PDS, DSS Deployment Boot Camp
REC 31: Incorporate workload shedding, repurposing of laptops, to expand local DSS capacity during complex high-impact events	DSS PDS, DSS Deployment Boot Camp, Operational Readiness Eval Sessions
REC 34: Re-design and implement back-up solution that meets operational needs	Use OPG environment to test viability of cloud solutions for service back-up
REC 46: Work with social scientists to determine effective language and contextualize statements to avoid confusing users	WxEM collaboration for IBW Demo, Winter Haz Simp Project, OPG Risk Comm expert
REC 56: Improve conveyance of relevant impacts, risks, actions by decision makers, in their language, based on their needs	DSS PDS, DSS Deployment Boot Camp, IBW, Winter Haz Simp, Risk Comm expert
REC 60: Make additional products available in GIS-compatible formats to support EM and water resources communities	OPG support for EVCM licenses in IBW demo (5 WFOs, FEMA7, SPC, KDEM)
2 BPs: clear, consistent messaging; integrating ICS into ops model	DSS PDS, DSS Deployment Boot Camp
June 29, 2012 Derecho SA Recommendations	Relevant OPG Activity
REC 7: better impact-based wording in NWS messaging	Haz Simp, IBW, SBI project
REC 9: expanded use of social media to multiply effective reach	Subject tool of an ORE session